



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,337	03/29/2004	Cecil Curtis Blair	7744-NES	2697
49459	7590	06/14/2006	EXAMINER	
NALCO COMPANY 1601 W. DIEHL ROAD NAPERVILLE, IL 60563-1198			MOORE, MARGARET G	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/812,337	BLAIR, CECIL CURTIS	
	Examiner	Art Unit	
	Margaret G. Moore	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14 to 17, 20 to 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14 to 17, 20 to 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1712

1. Please note that this application has been transferred and is now being examined by Margaret Moore.
2. Applicants' amendment has overcome the prior art rejections for reasons consistent with those given in applicants' response. In view of the newly amended claims, the following new ground of rejection is made.
3. Claims 14 to 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner cannot find support, nor have cited support, for the newly added limitation "number average". This does not appear to be found in the specification and is considered to be new matter. Note that this issue is significant because of the prior art teachings.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 21 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by Borchardt et al.

Borchardt et al. teach a method of stabilizing clays in subterranean formations.

Art Unit: 1712

This method uses an organic polycationic copolymer. See the formula on the top of column 4, particularly Table I, Monomer Unit A. This is a dimethylaminoethyl methacrylate salt. Please note that the term "quaternary salt" in these claims is broad enough to include the three quaternary ammonium moieties found in Borchardt et al. Since the copolymer is used to stabilize swelling clays it meets the requirement that the polymer have a molecular weight that is sufficiently low to inhibit clay swelling. This composition does not contain an additional salt. This meets claim 21.

Column 7, lines 5 and on teach various fluids that are used in the invention meeting the term "viscosifying agent". Also note lines 15 and on which teach gelling or thickening agents. While these agents can be salts, various non-salt agents are taught such as mineral acids, which also meet the term "viscosifying agent". This meets claim 24.

7. Claims 14 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Borchardt et al.

The teachings in Borchardt et al. have been noted above. Column 5, lines 57 and on, teach a molecular weight of from 50,000 to about 300,000, with a preferred weight average molecular weight of 135,000. On one hand, the specifically disclosed lower limit of a molecular weight of 50,000 would appear to inherently fall within the claimed number average molecular weight range. In this manner the claims are met by the teachings in Borchardt et al.

On the other hand, note column 5, lines 60 and on, which teach that the molecular weight of the polymers will vary depending upon the permeability of the formation to be treated. Note too that the polymers in Borchardt et al. have the same utility as that claimed. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (i.e. does not require undue experimentation). In this manner the skilled artisan would have found the claimed molecular weight range to have been obvious.

8. Claims 21 - 24 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by Hill. Hill teaches a process for fracturing subterranean formations in which clay stabili-

Art Unit: 1712

zation is a concern (column 1, lines 45 through column 2). This problem is overcome by the addition of a cationic polymer bearing a plurality of pendant quaternary ammonium groups. Particular attention is drawn to the first monomer on Table 1 which is used to form a homopolymer. This results in a polydimethylaminoacrylate quaternary salt meeting claim 23. Since the copolymer is present in the composition to stabilize clay, this meets the molecular weight requirement of claim 21. See column 5, lines 55 and on which teaches the addition of proppants (claim 26) and breakers (claim 24)

9. Claims 14 to 17, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill.

Hill fails to teach a specific molecular weight requirement. Note that the polymers in Hill have the same utility as that claimed. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In this manner the skilled artisan would have found the claimed molecular weight range to have been obvious and within routine experimentation during optimization of the composition in Hill.

10. McLaughlin et al. is cited as being of general interest. This teaches oil well treating compositions but fails to specifically teach the necessary cationic polymer found in the claims.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

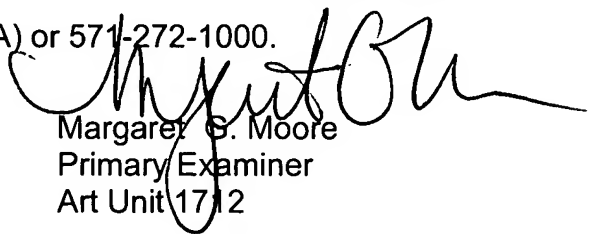
Art Unit: 1712

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday to Wednesday and Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Margaret G. Moore
Primary Examiner
Art Unit 1712

mgm
6/8/06